
Colony of Seychelles.

ANNUAL REPORT

ON THE

DEPARTMENT OF AGRICULTURE

FOR THE

YEAR 1927.

Published by Command of His Excellency the Governor.



PRINTED BY THE GOVERNMENT PRINTER,
AT THE GOVERNMENT PRINTING OFFICE,
Victoria—Mahé, Seychelles.

1928.

ANNUAL REPORT OF THE DEPARTMENT OF AGRICULTURE FOR THE YEAR 1927.

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Chapter I.

General Remarks.

During 1927 there was no change in the usual routine work of the department, except that the Director was away on leave in Mauritius for three months and that the Inspector of Schools kindly consented to act for him.

The duties of the Director of Agriculture mainly consist of:—

1. Running a Botanic Station and distributing plants.
 2. Upkeeping several small gardens in the town of Victoria.
 3. Re-afforesting the Crown Lands above the Niol Reservoir.
 4. Exploiting a small timber reserve at Félicité and other Crown Lands.
 5. Investigating plant diseases on estates and advising planters to combat them. 275 estates were visited during the year in this connection.
 6. Examining and reporting on applications for crop privilege loans and mortgage loans. 11 estates were visited and loans amounting to Rs 111,500 were granted. Many other applications were left in abeyance from want of funds.
 7. Examining and reporting on applications made by landed proprietors for the cutting of timber alongside river reserves.
- There were 372 such applications during the period under review.
8. Running an Excise Department in connection with the sale of fermented cane juice and the distillation of essential oils.
 9. Working a Licensing Board in connection with the sale and purchase of licensable produce.
 10. Running a small laboratory which is gradually equipped for research work.
 11. The Director who is an ex-officio Member of the Committee of the Planters' Association wrote 2 leaflets on coconut diseases at the request of the Association and these leaflets were posted up at all Police Stations in the country districts.

Chapter II.

Expenditure, Receipt, Sale of Plants &c.

| | Rs | c |
|---|--------|-----------|
| Receipts from Plantations | ... | 338 66 |
| Sale of timber and Crown Lands | ... | 1,487 10 |
| Sale of timber from Félicité | ... | 777 87 |
| Rent of Crown Lands and Buildings | ... | 28,628 63 |
| Licences on essential oil distilleries, sugar cane plantations, mills &c. | 26,566 | 52 |
| Total Receipts | ... | 57,798 78 |

The total Expenditure under Agriculture and Crown Lands amounted to Rs 21,910.34.

Attempts to introduce a few rare plants from other countries were made during the year and among those successfully introduced mention should be made of the "Nipa Palm" and "Marang Artocarpus Odoratissima" from the Philippines, Gum Copal and Inga Saman from Madagascar, Longan (*Nephelium Longanum*) and fodder plants from Mauritius, *Chaulmoogra* mostly (*Hydnocarpus Anthelmintica* and *H. Wightiana*) from Calcutta.

Chapter III.

The Vanilla Industry.

The export of vanilla beans amounted to 3,245 kilogs as compared with 551 kilogs for the previous year. This was the best crop on record for the last 6 years owing to better climatic conditions which prevailed during the flowering season. A spell of dry weather is beneficial to vanilla while it is very detrimental to coconuts, and a good vanilla year means almost a bad coconut crop. Vanilla is however only grown to a small extent in this Colony, the price for beans having gone down and the article having been driven from the market by synthetic vanillin which is manufactured at a much cheaper price than formerly.

Chapter IV.

The Coconut Industry.

The crop for the last 5 years may be apportioned as follows :—

| Nuts. | 1924. | 1925. | 1926. | 1927. |
|--------------------------------|------------|------------|------------|------------|
| Nuts converted into coprah ... | 26,705,000 | 32,200,000 | 37,912,000 | 29,978,000 |
| " " oil ... | 377,884 | 259,000 | 153,000 | 68,280 |
| " " soap ... | 16,975 | ... | ... | ... |
| " exported as such ... | 177,884 | 61,000 | 83,000 | 12,500 |
| " consumed locally ... | 4,000,000 | 4,000,000 | 4,000,000 | 4,000,000 |
| | 31,277,743 | 36,520,000 | 42,148,000 | 34,058,780 |

N.B.—This table does not include a certain amount of soap, amounting to several tons, made for local consumption from coconut oil.

As was anticipated last year the shortage of 50 inches in the rainfall for the year 1926 as compared with that of the previous year told heavily on the coconut crop.

Coconut palms are so exacting in their requirements as regards rain or percolating water that in dry countries their leaves are yellowish and less turgescient, and their inflorescences several feet shorter than in wet countries. In Seychelles at least 100 inches of rain are required annually for the profitable culture of this palm. As soon as the rains are less abundant the palms are besides severely attacked by scale insects and rats to a larger extent and the effect of a drought of 3 or 4 months' duration like the one which prevailed last year is immediately shown by the spread on the coconut leaves of the sooty mould which is always an accompaniment of the attack of scale insects. The latter in their turn not being kept in check by the fungus parasites which require rain for their growth take advantage of their liberty of action and the less resistant power of the palms to spread like fire over areas which sometimes take months and years to recover. It should be borne in mind that the only way to guard the plantations against such shortage of crops is to terrace and trench steep granitic lands in order to allow more moisture to penetrate into the subsoil and to manure heavily with organic matter the porous sands of the madreporic islands in which the evaporation and infiltration of rain water are excessive.

Chapter V.

The Essential Oil Industry.

The quantity of essential oil exported during the year under review exceeds that of all previous years :—

| | 1924. | 1925. | 1926. | 1927. |
|-----------------------|---------|---------|---------|---------|
| | Litres. | Litres. | Litres. | Litres. |
| Cinnamon leaf oil ... | 32,216 | 42,241 | 44,723 | 59,007 |
| Cinnamon bark oil ... | 140 | 19 | ... | ... |
| Patchouli ... | 1,025 | 551 | 1,305 | 1,054 |
| Basilic oil ... | 144 | 69 | 111 | 20 |
| Lemon grass oil ... | 79 | 71 | 195 | 236 |
| Clove oil ... | 1,025 | 3,800 | ... | 49 |
| | 34,629 | 46,751 | 46,334 | 60,366 |

Cinnamon bark was exported to the amount of 59 $\frac{3}{4}$ tons and not distilled locally. A little ambrette seeds (335 kilograms) and nutmegs (100 kilograms) were also exported.

The production of patchouli oil is increasing but that of cinnamon oil will soon decrease considerably, that article having lost recently half its value owing to competition with Eugenol manufactured artificially from guaiacol.

The production of clove oil for the same reason has ceased to be profitable and this will cause also a great loss of revenue in other colonies. It is surprising that cinnamon leaf oil which contains 90% Eugenol and is manufactured at a cost of Rs 3. only a litre should be driven so easily from the market by an artificial substitute. One should however bear in mind that natural rubber and indigo are still manufactured in spite of the competition with the same articles produced synthetically. Let us hope that the fate of cinnamon leaf oil is not doomed, as it means the abandonment of a jungle produce admirably adapted to the local conditions of climate, soil, labour, and capital. Cinnamon is besides a plant which occupies a land area on the mountain summits which is not suitable for most other plants and it will be difficult to replace a species of plant which has become spontaneous by other cultivated plants.

As the leaves of cinnamon are cropped with a certain amount of subtending branches it has been found that these branches can be stripped of their bark and the latter exported. At the Imperial Institute it has been found that the bark oil can be obtained from these chips (unscraped) to the amount of 0.5 % and sold like ordinary cinnamon bark oil which is very valuable.

Palmarosa does not do well, Basilic (*Ocimum basilicum*) is a hardy plant but it is attacked by a moth (*Argyroprolea aprobola*). Ginger has to be manured heavily and does not ripen properly owing to rains prevailing at the wrong season. Peppermint grows well but is attacked by a moth (*Lamprosoma indicata*) and has to be tended like a garden plant. Patchouli makes luxuriant growth but is so dependent on rainfall that a spell of a few days of dry weather reduces the crop considerably. Citronella and lemon grass oils are not sold at remunerative prices. Ylang Ylang is being experimented with.

It is always a very serious proposition when one has to replace a jungle plant like cinnamon which has found a congenial home in Seychelles by a cultivated plant, especially when perfume plants are concerned because perfumes are sold according to the fashion of the moment more than those most other articles and this means a spasmodic fluctuation of prices which compels distillers of essential oils to grow several perfume plants at the same time in order to bridge over waves of depression which affect certain oils at one time without affecting others.

Chapter VI.

The Rubber Industries

19,388 lbs of rubber were exported in 1927 as compared with 14,783 lbs in 1926 and 10,895 lbs in 1925. Para rubber which was introduced in the Colony in 1901 is still considered as one of the plants best adapted to the local conditions of soil and climate which are similar to those prevailing in Ceylon and Malaya. The proof of this is that even at the low price a few planters still stick to that enterprise while most of the others have sacrificed their plantations to make firewood.

Chapter VII.

Entomological and Mycological Notes.

Many specimens were forwarded to the Imperial Bureaux of Entomology and Mycology. Coconut leaf stalks, one of the specimens forwarded to the Imperial Bureau of Mycology, was found to harbour a fungus (*Ceratostomella fimbriata*) which appeared to be a variety or strain of that species which has been recorded already from Zanzibar and Uganda as a saprophyte on rubber and coconuts. It is apparently, according to Dr Ashby, not the same strain as that causing mouldy rot of the tapping cut of Hevea in Malaya nor that causing the so-called blackrot of the sweet potato in America.

During the year under review the coconut palms were more than ever attacked by scale insects mostly *Pinnaspis buxi* and *Ischnaspis filiformis* owing to periods of drought which prevented the entomogenous fungi which are parasitic on these scale insects from being effective. Fortunately confirmation was received during the year from the Imperial Bureau of Mycology that the yellowish white fungus which was suspected to destroy *Pinnaspis buxi*, had been identified. It appears to be an undescribed species of *Kusanoa* according to Dr Ashby, and to be a type of entomogenous fungus reported hitherto to occur only in Japan.

Last year a *Leptobasidium* fungus was also found to be parasitic on *Ischnaspis filiformis* in wet weather.

These two beneficial fungi are causing the sudden disappearance of scale insects attacking coconuts in many localities.

These two scale insects are found in nearly all tropical countries attacking coconut and other palm leaves. The home authorities again called my attention to the fact that everywhere in the tropics the palms are handicapped by scale insects only in poor soil and no notice is taken of them in soils suitable for coconut culture.

One specimen was found on the hills of coconut fruits attacked by the gumming diseases. The trees with the diseased fruits were burned. In Kenya, Zanzibar, Tanganyika and Philippines a similar disease has been recorded which has done already much harm. I am informed by Dr Ashby that this disease which has been known to occur for years in Zanzibar has been attributed in Kenya to a fungus (*Colleotrichum* sp.) but that this identification still appears to be doubtful.

Chapter IX.

Fisheries.

The exports from the Outlying Islands amounted to :—

| | | | | | | |
|--------------------|-----|-----|-----|-----|----------------------------|-------------------|
| Guanos | ... | ... | ... | ... | 11,329 tons declared value | Rs 287,000 |
| Tortoise shell | ... | ... | ... | ... | 1,171 kilogs | 44,690 |
| Green turtle shell | ... | ... | ... | ... | 898 " | 355 |
| Turtle strips | ... | ... | ... | ... | 997 " | 547 |
| Calipee | ... | ... | ... | ... | 5,023 " | 4,074 |
| Salt fish | ... | ... | ... | ... | 6,230 " | 2,214 |
| Trepangs | ... | ... | ... | ... | 7,176 " | 10,314 |
| | | | | | | <u>Rs 349,194</u> |

Mr Hornell who spent three months in Seychelles in 1926 has just published his reports on our marine resources. A report was also published during the year under review by the Research Committee appointed to investigate the market price of the products of the Empire (5th Report). From these documents one can gather a series of information on which extracts translated into French have been reproduced in the local press and bulletins.

Mr Hornell's unique knowledge of the Indian Ocean has allowed him to collect within three months all the information bearing upon the question of the development of the fisheries of this Colony.

It has been found by him that the whole archipelago is provided with fishing grounds covering thousands of square miles and that our sea resources are susceptible of great development.

He took great care in demonstrating publicly the mistakes made by our fishermen in curing fish for export and he believes that given good salt fish, the markets of Bombay, Mauritius and Kenya should be tapped by us.

Fresh fish is so abundant that it is sold locally below seven cents a lb.

Attempts were made upon his recommendations to try the market of Mauritius and Kenya without success. In Mauritius fish is imported mostly from Rodrigues and Cape Colony in greater quantities than is required at certain times of the year and when the market is thus glutted, as it happened when the first consignment of Seychelles fish reached that Colony, the price offered for the new article which was vastly superior to the other imported articles proved unremunerative. Our salt fish exports to Mauritius should therefore be timed if any trade is to be developed but unfortunately no steam communication exists between the two Colonies and without that rapid means of communication, advantage cannot be taken of the Mauritius market at the proper time of the year. Rodrigues fish is imported into Mauritius by the Government steamer every three months. If a similar way of supplying the markets of Mauritius and Kenya is not provided for Seychelles, there is not much opportunity and scope for the development of our fisheries to these Colonies. Let us hope that this will be done by private companies from East Africa as the fishermen of this Colony are not provided with enough capital to equip their enterprise with the necessary boats and fishing gear and to run a steamer of their own at the most convenient time of the year.

The report published by the Research Committee dwells on lines which have also been examined by Mr Hornell. Much progress is still required to improve the methods of curing fish properly, most especially as regards the discolouration of salt fish which assumes very often a reddish appearance for some unknown reason. The Biological Station of which the Research Committee recommends the establishment at Singapore will permit no doubt to solve quickly these and other important biological problems of the same nature in tropical waters.

Chapter X.

Crown Lands.

The lease of the mountain reserves acquired mostly by way of exchange in 1910 which was to expire in November 1928 was given up by the lessees during the year under review owing to the fall in price of cinnamon leaf oil. Under the conditions of the lease the lessees had the right to cut down cinnamon and clove trees and to crop cinnamon leaves. All the large cinnamon trees were cut down for the exploitation of their valuable bark and

the result was a serious denudation of the mountain summits, 50o/o of the jungle trees in Seychelles being cinnamon it is hoped that these mountain reserves will never be leased again and they form the catchment area of all the river and rivulets which supply water to the town of Victoria. They are gradually being re-afforested. During the year under review the following plants were set out :—

| | | | | |
|-------------|-----|-----|-----|-------|
| Cedars | ... | ... | ... | 3,384 |
| Cocoplum | ... | ... | ... | 6,500 |
| Eucalyptus | ... | ... | ... | 916 |
| Gum Copal | ... | ... | ... | 508 |
| Chaulmoogra | ... | ... | ... | 268 |
| Bois Noir | ... | ... | ... | 20 |

A small forest reserve exists on these crown lands and during the year the following pieces of timber were supplied at cost price to the Public Works Department :—

| | | |
|----------------------------|---------------|-------------|
| 1,080 feet madriers cedars | @ Rs 20 per % | Rs 216.00 |
| 2,776 capucin posts | @ „ 30 „ | „ 832.80 |
| 2,784 ft Bois rouge posts | @ „ 15 „ | „ 278.40 |
| 1,599 ft „ planks | @ „ 10 „ | „ 159.90 |
| Total | | Rs 1,487.10 |

There was in the small reserve at Félicité, which had been exploited by Government for 9 years such a small number of timber trees left that it was found preferable to sell these remaining trees to the lessee of the island for Rs 1,500 on the condition that a cleared area of 100 acres should be planted with coconuts within 2 years at the lessee's expense.

Alongside the river reserves of the Colony there are still in some places a small number of trees which cannot be cut down by the owner without permission from the Government. This restriction was extended in 1915 to breadfruit trees outside the river reserves, the fruits of this tree forming the staple food of the poorer classes. The patrolling of these river reserves and of estates by 3 forest rangers takes a large part of their time. Permission was granted during the year to cut down no less than 772 breadfruit trees and 6,990 other trees.

Chapter XI.

Excise Returns.

The total area under sugar cane cultivation for which a licence of Rs 250 per acre per annum has to be taken under Ord. No. 5 of 1917 amounted to 34 4/10ths arpents and 2,652 square feet distributed as follows :—

| | Arpents. | Square feet. |
|---------------------------------|----------------|--------------|
| North Mahé and Central District | ... 16 9/10ths | 4,096 |
| South Mahé | ... 14 2/10ths | 1,362 |
| Praslin | ... 2 5/10ths | 2,912 |
| La Digue | ... 6/10ths | 3,368 |

The area under cultivation in 1926 amounted to 33 9/10ths arpents and 266 square feet showing very little change in the production of the popular beverage for the last 2 years.

2. The number of bacca mills registered during the year amounted to 20 and 27 licenses were issued to retailers of bacca.

3. The number of essential oil distilleries for which a license of Rs 60 has to be taken amounted to 32 showing a decrease of 5 distilleries as compared with last year.

4. The revenue derived from the taxes and licences are reckoned at :—

| | Rs | c. |
|--|-----|-----------------------|
| Sugar cane plantations (Rs 250 p. a.) | ... | 8,626 52 |
| Bacca mills (Rs 100 p. a.) | ... | 2,000 00 |
| Tax on mill oxen (Rs 6 p. a.) | ... | 120 00 |
| Bacca shops licences (retailers Rs 180 p.a.) | ... | 4,860 00 |
| Tenders for licences | ... | 9,040 00 |
| Essential oil distilleries (Rs 60 p. a.) | ... | 1,920 00 |
| | | <hr/> 26,566 52 <hr/> |

P. R. DUPONT,
Director of Agriculture.

Department of Agriculture,
Seychelles 26th April, 1928.



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